



New Mexico Environment Department

Overview of Regulation of Radioactive and Hazardous Materials
Chris Catechis, Acting Director, Resource Protection Division
Santiago Rodriguez, Chief, Radiation Control Bureau

June 22, 2022
Radioactive and Hazardous Materials Interim Committee





Radioactive and Hazardous Materials Topics

Summary of the New Mexico Environment Department's authorities at higher-profile facilities

Facility	Hazardous Wastes	Radioactive Wastes
Upstream oil and gas	Not regulated	Regulated
Los Alamos National Lab	Regulated	Not regulated*
Sandia National Labs	Regulated	Not regulated*
Waste Isolation Pilot Plant	Regulated	Not regulated*
Holtec CISF/Spent Nuclear Fuel	Not regulated	Not regulated

***When a radioactive waste is mixed with a hazardous waste, we call that a mixed waste, and NMED does have some jurisdiction related to mixed wastes**



Los Alamos National Laboratory 2016 Consent Order

- **Compliance Order on Consent (Consent Order) was signed by NMED and the U.S. Department of Energy (DOE) in June 2016**
- **Most corrective action for releases of hazardous waste at LANL are conducted under the Consent Order, not under the facility's Hazardous Waste Permit**
- **The Consent Order is an “enforceable document” pursuant to federal and state law; With few exceptions, it is the sole mechanism for enforcing corrective action activities at LANL**
- **DOE and NMED agreed on 19 milestones for Federal Fiscal Year 2022; milestones are subject to stipulated penalties**

FILED 1st JUDICIAL DISTRICT COURT
Santa Fe County
2/24/2021 3:32 PM
KATHLEEN VIGIL CLERK OF THE COURT
Liliana Villalobos

STATE OF NEW MEXICO
COUNTY OF SANTA FE
FIRST JUDICIAL DISTRICT COURT

NEW MEXICO ENVIRONMENT DEPARTMENT,

Complainant,

v. Case assigned to Mathew, Francis J.
No.D-101-CV-2021-00386
U.S. DEPARTMENT OF ENERGY,

Respondent.

COMPLAINT FOR ENFORCEMENT OF COMPLIANCE ORDER ON CONSENT

The New Mexico Environment Department ("NMED"), files this complaint seeking enforcement of a June 2016 Compliance Order on Consent ("2016 Consent Order"), attached as NMED Exhibit 1, issued pursuant to NMSA 1978, Section 74-4-10, and agreed and consented to by NMED and the U.S. Department of Energy ("DOE" or "the Respondent"), which addresses the cleanup of legacy hazardous and mixed waste at and around Los Alamos National Laboratory ("Facility"), located in Los Alamos, New Mexico. Respondent has yet to comply with the requirements of the 2016 Consent Order for the current annual planning period, despite attempts by NMED and DOE to reach agreement through dispute resolution. This failure by the Respondent has been a continuing pattern during the five years since the 2016 Consent Order came into force, and even prior to that, during the term of the prior (2005) Consent Order. This ongoing failure means that hazardous and radioactive substances continue to exceed standards and pose health risks to adjacent communities, that contaminated groundwater continues to pose a long-term threat to New Mexico's drinking water sources, that tribal communities are unable to engage in longstanding cultural uses of their lands, and that recreational and economic activities in the area



Los Alamos National Laboratory 2016 Consent Order

Example: LANL did not commit to enforceable milestones to install and monitor wells in 2020-21



- **NMED considered DOE proposed FY2021 milestones/targets as deficient due to a lack of substantive and appropriate clean-up targets for coming years**
- **Mandated dispute resolution ended in January 2021 without agreement between NMED and DOE**
- **In February 2021, NMED filed a civil complaint in District Court, seeking to terminate the 2016 Consent Order and negotiate new terms that expedite cleanup of legacy waste**



Los Alamos National Laboratory Middle Delta Prime ("DP") Road

1940s disposal practices at LANL



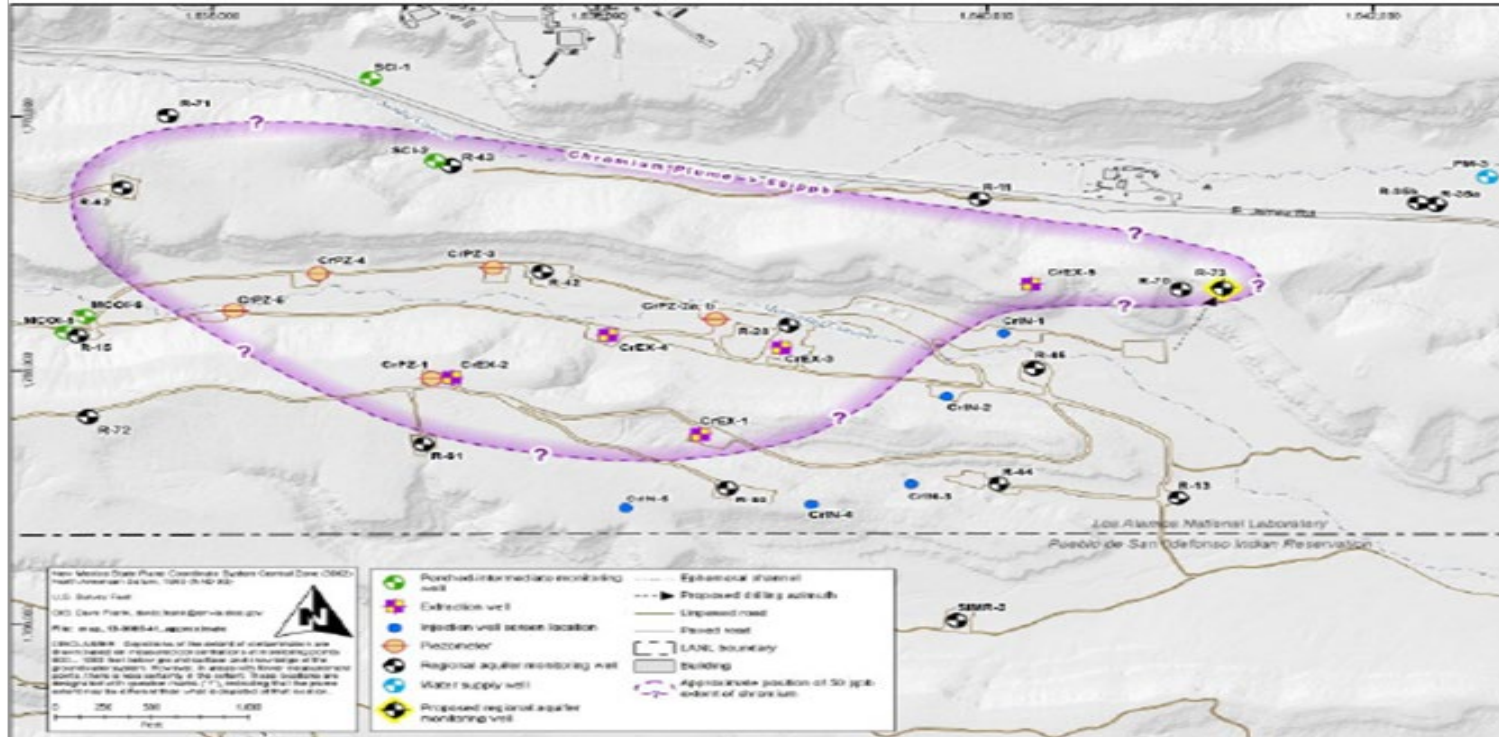
Debris found by DOE in 2020



- Nearby Material Disposal Area (MDA) B was used for disposal of hazardous and radioactive waste in mid-1940s
- MDA B was remediated in 2011 and land parcels were transferred from DOE to Los Alamos County
- Potentially hazardous and radioactive debris discovered near Middle DP Road in February 2020
- LANL is implementing NMED-approved Solid Waste Management Unit assessment work plan; Scope of work increased with discovery of additional contamination
- Assessment report due from LANL six months after field activities are complete



Chromium Interim Measure Update



5 Interim Measures injection wells (blue)
5 Interim Measures extraction wells
(purple/yellow)
County Production Well PM-3 (light blue)



Waste Isolation Pilot Plant Operating Permit Renewal

- **Renewal application submitted to NMED March 31, 2020**
- **Class 3 Permit Modification for New Panels 11 and 12 was submitted to NMED in July 2021**
- **NMED Requested this Class 3 Permit Modification be combined with Permit Renewal Application in order to focus on one public hearing addressing both items**
- **NMED reviewed the combined package and issued a Technical Incompleteness Determination, requesting additional technical information**



Image credit: Associated Press News



Kirtland Air Force Base Bulk Fuels Facility Spill

Granulated carbon filtration tanks
inside the Interim Measure
groundwater treatment system



- Progress continues toward the Resource Conservation and Recovery Act (RCRA) Phase II Facility Investigation with anticipated Kirtland Air Force Base draft submitted to NMED in Fall 2022.
- Groundwater and soil-vapor monitoring is on-going at both KAFB and offsite locations.
- The off-site pump and treat system continues to operate to prevent the lead scavenger compound EDB (ethylene dibromide) from migrating toward the Ridgecrest municipal well field
- The two northern most extraction wells currently pump water that meets the cleanup standard. This is necessary to maintain hydraulic conditions to extract EDB from the other wells in the interim measures treatment system



RCRA Regulations for Dry Cleaning Facilities



- **Dry Cleaners are generators of hazardous waste in the form of spent solvents**
- **Spent solvents have historically included halogenated compounds such as tetrachloroethylene (PCE) and trichloroethylene (TCE) and also nonhalogenated petroleum-based compounds**
- **Spent solvents are classified as listed hazardous waste from non-specific sources**
- **Dry cleaners must comply with the hazardous waste management requirements for hazardous waste generators**
- **Regulations include time limitations for hazardous waste storage and specific requirements for record-keeping and manifesting for transport of spent dry cleaning fluids to RCRA-permitted hazardous waste treatment, storage, or disposal facilities**



The diagram illustrates a water treatment process. On the right, a vertical blue bar represents **Water injection**. This water flows through a grey pipe containing **Pumps** and **Valves** (depicted as a circular valve with a cross). The pipe then turns left into a large grey cylindrical **Separator tank**. Above the tank, a yellow arrow points to a yellow cloud labeled **Gas (radon)**, with labels **Black dust (lead, mercury)** and **Films containing lead** pointing to the arrow. A green arrow labeled **Sludge** points from the left side of the tank to a green barrel labeled **Oil**. A blue arrow labeled **Scale** points from the bottom of the tank to a blue water drop labeled **Produced water**. A black arrow labeled **Scale** points from the top of the tank to the left. A black arrow labeled **Sludge** points from the bottom of the tank to the right.

Formation water



Radiation Control Act and Upstream Oil and Gas Industry

- February 2021 – NMED sent 20 letters to the largest oil and gas operators in New Mexico concerning regulated NORM
- As of June 2022 - Responses and additional documentation from the 20 oil and gas operators has been received
- Preliminary survey results indicate that several oil and gas operators will require specific licenses as generators of NORM





Upstream Oil and Gas Industry

NMED field activities include:

- **Deploy a portable radiological lab to identify radioisotopes at various operations and determine if licensable NORM activity is present**
- **Conduct field verifications of industry survey results with confirmatory laboratory analysis where appropriate**



NMED Contact Information

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